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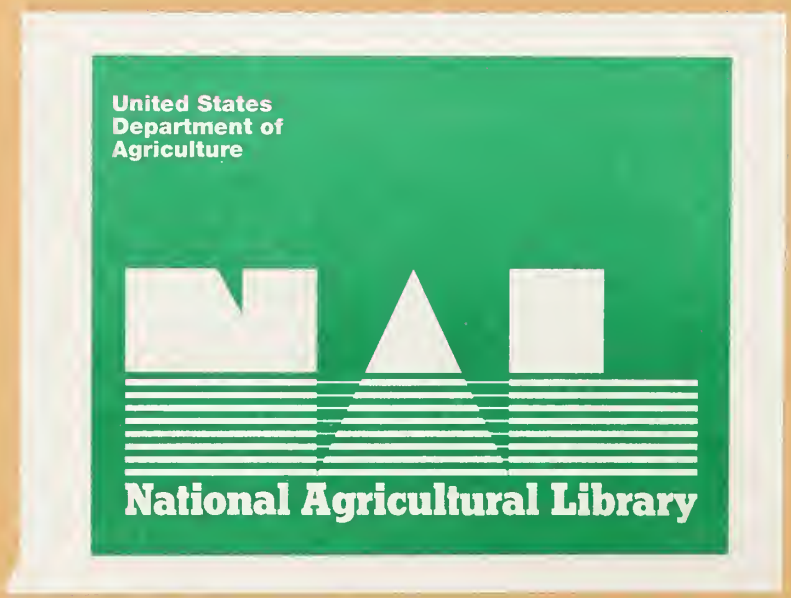
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TRIP REPORT

COUNSULTATION ON BOLIVIAN RURAL HOUSEHOLD BUDGET AND FOOD CONSUMPTION SURVEY

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Background on Bolivian Rural Household Survey (RHS)

The farm policy analysis project in Bolivia (AID project number 511-0485, authorized March 20th, 1978) consists of a series of studies and surveys of the Bolivian rural population. It includes a nationwide RHS with the objective of collecting data on family expenditure patterns, food consumption and nutrition status, and the socioeconomic characteristics that permit analysis and construction of comprehensive target group projects in terms of policy variables (AID project paper 511-0485, pp. 27-34). The RHS is scheduled for mid-1979. It should last one year in order to grasp seasonal variations in consumption patterns and nutrition status. The list of consumption and nutrition studies carried out in Bolivia to date is short and, with the exception of an already somewhat dated survey of major cities, the studies are not based on samples that are statistically representative of the country's rural or urban population or both. Private consumption is still estimated on a residual in national income accounting. The RHS will therefore make a significant contribution to the knowledge on consumption patterns that is needed by planners in Bolivia.

The RHS is currently in the planning stage. The present report suggests a survey design for discussion by the La Paz AID Mission, GOB counterpart institutions and AID Washington.

Outline of Report

The material presented in this report is divided into the following four headings and two appendices:

1. The General Design of the Bolivian Rural Household Survey
2. Data Processing Options
3. Government of Bolivia Counterpart Institutions
4. The Next Steps in the Preparation of the RHS

Appendix 1. Data Collection and Questionnaire

A.1 Conceptual Introduction to the Collection of Income and Consumption Data in Rural Bolivia.

A.2 A suggested Questionnaire on Family Income, Expenditure and Consumption

Appendix 2. List of Persons Contacted During TDY in La Paz.

Acknowledgment

I wish to thank Mr. Harry Wing of USAID, Bolivia, for his expeditious cooperation and organization of my TDY in La Paz. A number of the ideas presented in this report were developed in discussions with him. I have also enjoyed and benefitted from discussions with Dr. Reynaldo Grueso of CONEPLAN.

1. The General Design of the Bolivian Rural Household Survey

Among the issues that demand attention early in RHS Planning are the selection of the sample (including total sample size and the distribution of the sample in time and space), the method of data collection, and the amount of time during which each family is subject to observation. The total sample size suggested in the Mission project paper (cited above) is 1200 families. I believe that this number is large enough to present the selection in time and space of a reasonably representative sample of rural families. I therefore adopt it in the present discussion, even though I recognize that it may suffer upward or downward adjustments in a later, work detailed, survey design effort.

Mission nutritionists and economists are strongly in favor of observing the same family in several (preferably four) seasons of the year.[1] I support the endeavor on account of our lack of knowledge relative to the seasonal incidence of undernutrition and the methodological consideration that repeated observations of the same family allow greater control of non-seasonal effects on consumption than does the alternative of studying different families at different points in time. Because there are limits to respondent willingness to cooperate, this repeated exposure of rural families to the survey is only possible in combination with relatively short periods of observation. However, the task of obtaining accurate quantitative

consumption data is difficult and time-consuming. The need for detail in the observation of consumption conflicts with the need to minimize the duration of the interviews.

Whereas in the monetized urban economy there may be a choice as to whether expenditures or consumption should be observed in a combined household budget and food consumption/ nutrition survey, it is necessary to monitor both in the partial subsistence economy of Bolivia's rural areas. Expenditures are sometimes used to approximate consumption in the analysis of urban household budget surveys by determining physical quantities from the unit price data, defining edible portions on the basis of average, published conversion coefficients and, finally, calculating the apparently ingested levels of calories and nutrients. The evaluation of nutrition status that can be made by means of this procedure is crude, because such crucial details as family member meal attendance, food preparation practices, and the intake of non-purchased commodities are overlooked. In the countryside, the approach breaks down, because the contribution to total calories made by both the subsistence component and the purchased component are considerable. This is the reason why both expenditures and consumption must be recorded by the Bolivian RHS. Furthermore, it is one reason why the time required to study the selected families is relatively long.[1/]

[1/] The subsistence component could, of course, be determined by an inquiry into livestock holdings, the distribution of crops over the arable surface controlled by the family, and the various uses to which the harvest is put (subsistence, sales, feed, seed, waste, etc.). There is, however, no satisfactory nutritional interpretation of this yearly estimate of the subsistence component.

There are two ways to monitor the consumption of food in at least approximate quantitative fashion. The first is to weigh all the ingredients for each of the daily meals consumed by the family. The second consists of asking respondents to recall the diet components and their quantities consumed during the past 24 hours. It goes without saying that the technique of food weighing by the enumerator is more time-consuming, but leads to more precise results than the alternative 24-hour recall technique. Weighing is the preferred alternative if cost considerations (including respondent willingness to cooperate) permit it to be chosen.

As a general principle, families are observed during the minimum amount of time required to obtain reliable information on expenditures and consumption. It is not possible to generate reliable data on these variables in one-day interviews, (a) because of the likely desire of respondents to distort their consumption patterns, and (b) because food purchases and consumption on any single day hardly reflect the family's normal behavior. On first sight it might appear that these problems could be solved by asking respondents to recall expenditures and consumption during the past week, month, or year, depending on the commodities in question. But recognition of the limits to the respondents' recall capacity implies that this approach is not advisable in practice. A survey whereby families are visited on several consecutive or alternating days has much greater chances than the one-day alternative to generate reliable expenditure and consumption data. It has the added advantage of

providing more time for the collection and field verification of information on income, employment, and all other desired variables.

Most consumption surveys last from three to seven days. In order to minimize data distortions due to the effect of any single day, analysis is not done at the daily level, but at the aggregate level of the survey period. For purposes of nutritional evaluation, average daily per capita intake of food values is calculated on the basis of the day-by-day consumption record. In the case of combined expenditure/consumption/nutrition surveys, such as the Bolivian RHS, the decision regarding the length of the survey period is complicated by the circumstance that the optimum survey duration is not necessarily the same for nutrition status assessment and the collection of expenditure data. Since many of the sample families are relatively poor, a three-day survey of their food intake may be expected to yield reliable information for nutrition status assessment. Diets, after all, are frequently monotonous and even though some families may desire to improve on their normal consumption patterns for the sake of the survey, their incomes are frequently too low to persist in this activity during more than a day or two. On the other hand, their very poverty and the irregularity of their income stream may be responsible for irregular buying patterns which are more completely captured in a longer, say seven-day, survey, than in a short field study. A complete inventory of stocks at the beginning

of the survey may help eliminate distortions introduced into the expenditure information on account of insufficient survey duration. But data on stocks of food are harder to obtain than data on daily purchases and consumption, because Latin American peasant families, in my experience, are more reluctant to disclose their accumulated wealth than their expenditures. In addition, it is always difficult to decide at what prices stocks should be valued.

I consider the seven-day survey to be the most desirable alternative in terms of data accuracy. The week is a more or less natural cycle in the lives of many people, which is likely to have a bearing on buying patterns. Many towns have weekly markets, and market days should enter into the observation period. Stocks need not be taken into account in a seven day survey, because given a sample with a large number of observations this period is long enough for reliable detection of population expenditure patterns.[1/]

To accommodate the conflict between the need for short interviews if families are to be revisited four times during the survey year and the circumstance that data requirements and collection methodology imply a rather lengthy period of respondent exposure to the survey, I propose the following general design for the Bolivian RHS:

1. Carry out an expenditure/consumption/nutrition survey in which each family is interviewed during the seven-day period. Distribute the sample of this survey over a

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[1/] Questionnaires will provide space for recall information on "extraordinary" or "bulk" expenditures during the month and year preceding the survey.

12 month period, such that each family is visited in the particular season of the year. Weigh all food consumed during the two main meals of the day and obtain quantitative data on ingredients to other meals by means of controlled recall (see Section 4.2).

2. Revisit the same families at points in time that are representative of the three other seasons of the year. Conduct a one-day or shorter interview obtaining basic anthropometry (weight, height, arm circumference) and semi-quantitative information on diet composition by 24-hour recall.

3. Obtain prices of a basket of major commodities at local markets in each of the three seasons not covered by the intensive seven-day survey. This will permit an evaluation of seasonal price fluctuations and (by means of price elasticities calculated from the expenditure survey) changes in demand.

Sample

The sampling frame used for the RHS is that of the National Socioeconomic Farm Survey (NSFS). The NSFS collects farm management data on an approximate number of 2800 peasant families in seven Departments and eleven ecological zones of Bolivia. Field work began August 21st, 1978 and is expected to last through the month of November. The sample design is described in a May 1978 report by Don Larson of BUCEN.

The NSFS sample does not include rural landless families. However, prior to selecting and interviewing farm families, lists of the population of both farm and landless families in each primary sampling unit are being prepared. The RHS sample will be selected from these lists and will reflect the population proportion of farm families to landless families.

In order to minimize the number of questions on production and income that must be asked of RHS respondents, the RHS subsample of landed peasants will consist of families that have been observed by the NSFS. I will explain in Appendix 1 how the 1978 NSFS production data might be used to help determine the 1979 incomes of the same families selected for the RHS. The AID project paper previously cited suggests a sample size of 800 for the farm family RHS subsample. For a total size of 1200 families, this leaves 400 families to be selected for the landless subsample. I have not had an opportunity to study the population proportion of landed to landless. If the 1978 NSFS lists suggest a different proportion than that implied by the AID project paper, the number of observations in each of the two subsamples must change.

It is essential that the self-weighing character of the NSFS sample be maintained when it is adapted for RHS purposes. While the sample must cover the major ecological zones of Bolivia's rural areas in accordance with their population density, a guiding principle in its design must be the clustering

of the sample in a way that maximizes the number of observations in a minimum of geographic space. Since it will be of interest to stratify the seven-day survey by seasons despite the fact that nutritional variables are observed in the same households at four points during the year, this design principle is worth pursuing, because it leads to minimization of the variation in ecological conditions covered by the observations in any seasonal sample stratum. It also reduces the need for enumerator travel.

Mechanics of Field Work

Enumerators hired for the seven day survey will be working with two families at the same time. Their schedule will consist of sequences of seven days' interviewing and two days' rest, travel, and completing of questionnaires. The survey year (360 days) is divided into 40 periods of nine days or 7 - 2 - 7 - 2 sequences, during which each enumerator completes 80 interviews. The seven day survey of 1200 families requires therefore, 15 enumerators (person/years).

Enumerators hired for the one-day nutrition survey in the three seasons not observed by the intensive expenditure/consumption/nutrition study are expected to complete two interviews per day. The actual collection of data may absorb less of the enumerators' time than finding the families and gaining their cooperation. For the purpose of the three repeat visits a

"season" is defined as the two-month period that is locally most clearly identified with either the planting, growing, harvest or post-harvest time of the agricultural calendar. All 1200 families will be re-visited during three of these two month periods.[1/] Since the agricultural calender varies between ecological zones, the exact enumerator number required for the repeat visits can only be determined once the sample is designed and it is known which two months constitute a "season" in each ecological zone. The actual number of enumerators needed will vary with the incidence of overlapping seasons in different areas and the time required for travel between zones.

At a rate of two families per day, a minimum of 12 enumerators are needed to observe 1200 families during a two month period (52 working days). The number will increase with the incidence of the complications mentioned above.

The seasonal survey of market prices will not require its own enumerators. The data requirements in this context are minimal and can be satisfied by field personnel hired for the repeated one-day survey.

[1/] Note that the seven-day and the one-day surveys start at the same time, since otherwise the survey year lasts longer than 12 months. In other words, there will be some families that are subjected to one or even two one-day surveys before they participate in the intensive seven-day study.

Approximate Enumerator Cost

In the 1978 NSFS enumerators are paid a daily salary of $b 100 and a matching per diem of $b 100. This adds up to a monthly enumerator cost of $b 6000 or U.S. $300.00. (The exchange rate is $b 20 per dollar). At these pay rates, the approximate RHS enumerator cost would amount to:

(a) seven day survey:

15 persons * 12 months at $b 6000/mo. = $b 1,080,000

(b) One day survey, three repetitions:

3 * 12 persons * 2 months at $b 6000/mo. = $b 432,000

$b 1,512,000

or U.S. $ 75,600

Enumerator Selection Criteria

Among the many factors that determine the usefulness of a consumption survey, the quality of the enumerator team is of prime importance. Well-planned survey logistics as well as appropriate salary levels and training of enumerators are necessary conditions for maximum efficiency of field personnel. But there is another dimension to field work, which can only partially be taught to the team. Enumerators must have the ability to communicate with peasant family members in a manner that reflects respect for, and sensitivity to, their way of life. Since this quality is more frequently found among people from and living in the countryside than among city people, an effort should be made to recruit enumerators from the former

group. Appropriate individuals for the task might be found and recruited with the help of local staff of the National Community Development Service (SNDC). The minimum level of education required for RHS - type field work is about eight years of schooling.

There was a clear consensus among a number of Bolivian and foreign rural development experts whom I interviewed that the enumerators should be female. Decision on expenditures and consumption are largely made by the woman head of the peasant household and women enumerators are more easily accepted into the family kitchen then men.

Definition of Consumer Unit

For purposes of the Bolivian RHS the consumer unit is defined as the nuclear rural family, i.e., group of persons that shares a dwelling and eats from the same kitchen. In most cases this is the same as the producer unit. Extended families that pool their resources for the purpose of housekeeping and / or agricultural production are rare in Latin America. Pensionistas are counted along with the family as members of the consumer unit if they eat regularly at the family table.

Form of Data Collection: Interview vs. Diary

The two fundamental ways of collecting expenditure and consumption information are direct interviews (an enumerator visits the family and personally observes, or asks respondents to recall, their expenditures) and diaries kept by the respondents themselves. Due to the high illiteracy rate and the relatively undeveloped communications network in rural Bolivia, I believe that the diary method is unacceptable for the purpose of the RHS. All data must be recorded by the enumerators in direct interviews with the respondents.

Pilot Survey

In early project planning discussions held at OICD and BUCEN, Washington, in June 1978, it was concluded that a pilot expenditure/consumption/nutrition survey should be carried out early next year in order to test the relative merits of alternative methodologies of data collection (particularly the weighing of food vs. the 24-hour recall) and alternative survey period lengths. Even though it may be questionable how accurately these alternative approaches can be evaluated relative to each other, the idea of a pilot survey was pursued during most of my TDY in LaPaz. With the general RHS design as outlined above, however, a pilot survey does not appear to be necessary. The seven-day survey and food weighing have

been practiced in a number of other countries and are known to lead to good quantitative results. The recall method, on the other hand, is known to produce good qualitative data and approximate indications of quantities consumed. It is sufficiently accurate to satisfy the objectives of the one-day surveys as far as the study of seasonal dietary change is concerned. No pilot survey is therefore recommended, but it is necessary to carry out a field test of the questionnaire.

Gaining Respondent Family Cooperation

The RHS will require a large amount of attention and patience on the part of respondent families. It may be considered necessary and just to remunerate respondents. I do not believe it wise to offer money to the selected families. But I think it may be useful to advertise and introduce the study as a public health endeavor whose objective is to identify and cure undernourished children. Under this concept, supplementary food might then be distributed to children under 5 years of age whose weight for age is, say, 60% or less of the standard weight. (Detection could be done by handing growth charts to the enumerators on which they can rapidly locate and judge each child).

Data Processing Options

It is my understanding that BUCEN will not participate in data processing of the RHS nor any of the three rural surveys planned in Bolivia. This limits the options to contracting DP out in the United States or using the National Computer Center of Bolivia (CENACO). Private DP facilities in LaPaz and Bolivia are still limited. A number of private firms operate computer centers, but their machines are small and available software tends to be oriented toward business needs as opposed to the statistical manipulation of multi-dimensional survey data. A large IBM computer is in operation at YPFB (Yacimientos Petroliferos Bolivianos), but it is used to capacity. The establishment of a computer center at MACA[1/] which would exclusively serve the agriculture sector is in the discussion stage. It has met with opposition from CENACO which by law has the power to veto and regulate public sector institution acquisitions of hardware. Even if MACA were to have its own computing facility a year from now, one could hardly count on it to process the RHS, since the lag between acquisition of hardware and efficient operation of the facility must realistically be set at about 2 years.

[1/] Ministerio de Asuntos Campesinos y Agropecuarios

The alternative of contracting DP out in the U.S. should be considered a second-best solution in case the job cannot get done in Bolivia within reasonable time limits. Every effort should be made in my opinion, to process and analyze the survey in Bolivia, because otherwise a major aspect of it, which is the training of local technicians in survey data manipulation, will be lost. The data bank to be created will be of no value to government planning bodies if they are unable to obtain analytical results quickly and on their own in response to information needs of the future.

This leaves CENACO as the preferred alternative. Except for the IBM-YPFB facility, CENACO has by far the largest computer center in the country. It operates a DEC System 10 computer (Digital Equipment Corporation) with a 1000 K memory.[1/] Plans exist to enlarge the facility in the near future by buying new hardware (presumably of greater capacity) for the La Paz center, moving the current La Paz equipment to Santa Cruz, and operating the two units in a coordinated way so that in case of a system break-down in La Paz, processing would be taken over by Santa Cruz and vice-versa.

Without counting on this enlargement, CENACO clearly has the hardware, software (such packaged programs as SPSS are available), and analyst personnel that are needed to process

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1/ Input - output devices include 7 disk units, 4 tape drives and 2 printers.

a large-scale survey. The problem is that the facility has been jammed with work recently and access, as well as turn-around time, have been slow. From conversations at CENACO I conclude that they are flexible in their allocation of priorities to work if they know ahead of time what is being asked of them. The recommended approach is therefore to enter into a contractual agreement with CENACO that spells out the machine and personnel time required for the processing of the RHS. Just before my departure from La Paz, the possibility of drawing up one large contract for the processing of all rural surveys (including the RHS) was being discussed by Mission members and CENACO staff. I would consider this the most appropriate way of organizing the processing of the RHS.

3. Government of Bolivia Counterpart Institutions

Possible government of Bolivia Counterpart Institutions for the RHS are:

- The MACA Sectoral Planning Office
- The MACA Sectoral Statistics Office
- The National Community Development Service (SNDC)
- The Division of Nutrition of Ministry of Health
- The National Council for Economy and Planning (CONEPLAN)

Of these, only the last has the institutional and personnel resources to play an effective counterpart role in the planning

field work, processing and analytical stages of the RHS. The MACA Sectoral Planning Office -- by its mandate the ideal counterpart institution -- simply does not have a sufficient number of adequately trained technicians that could cooperate with the survey. The MACA Sectoral Statistics Office is currently putting all its manpower into the National Socioeconomic Farm Survey and will devote most of it to the technology and area production surveys planned for the first half of next year. MACA Statistics can and should be involved in the RHS processing stage which will begin sometime during the latter half of 1979. But they do not appear to have the resources to contribute to the field work and the analysis.

The National Community Development Service similarly suffers from an acute shortage of adequately trained personnel. From discussions that I held with SNDC officials, it did not appear that SNDC could contribute to the processing and analysis of the survey. SNDC is however interested in the analytical results of the RHS and is ready to support the field work in such aspects as provision of access and introduction to the communities, use of local SNDC facilities for interviewers, etc. No SNDC held personnel will be available to work as enumerators in the RHS, but their generally good relations with the communities and their knowledge of areas and people, make it advisable that the RHS field work staff be coordinated with SNDC.

The Division of Nutrition of the Ministry of Health is an important resource for the RHS in such matters as the development of a food composition table and general advice on the nutritional interpretation of survey data. There are strong ties between this group and the nutrition group at CONEPLAN, including the existence of a number of people with joint appointments in the two institutions. With CONEPLAN as the official counterpart institution to the RHS, access to the Ministry of Health and its nutrition division appears therefore to be guaranteed.

CONEPLAN is the President's principal economic-technical advisory group and is the highest level government organization concerned with nutrition planning. There appears to be great interest among CONEPLAN officials in cooperating with the RHS. All stages of the survey should immediately be coordinated with CONEPLAN groups (questionnaire design, planning of field work, hiring and training of enumerators, data processing and analysis). The brunt of the institution's cooperation would probably lie in the areas of survey design and analysis. Clerical-level personnel for data processing is available at CONEPLAN, but will probably have to be reinforced by resources from the MACA Statistics Office.

4. The Next Steps in the Preparation of the RHS

During September and October 1978, the general survey design and questionnaire spelled out in this report should be discussed at AID, Washington, the AID Mission, CONEPLAN, and other GOB institutions. The working relationship between the Mission, MACA and CONEPLAN as the national counterpart should be formalized, and discussions with CENACO about the terms of a contract for data processing should begin. Barring major disagreements with the general survey concept as outlined above, work could start on the definitive sample design in October. Since the sampling frame of the NSFS will be used, it appears that the RHS sample could be designed in Washington if BUCEN statisticians who worked on the NSFS sample were able to cooperate.

During November and December, the final questionnaire should be developed. This activity will involve a synthesis of the reactions to the questionnaire attached to the present report and of the experience gained in consumption surveys in other countries. Time should be allowed for field visits to sites studied by the NSFS and meetings with supervisors and and staff of the NSFS as well as other people knowledgeable about rural life in Bolivia. Also during November and December a comprehensive background document on the survey should be written. This paper should synthesize the objectives and

the design of the study, the conceptual bases for the collection of the various types of data, and the methodology of the field work. It should include a tabulation plan and a supervisor's and enumerator's manual or guide through the questionnaire.

Once a definitive survey design is adopted and the questionnaire written, the data processing needs must be spelled out in detail in a separate paper which must be brought to the knowledge of CENACO officials, if it is not to form the basis for a contract for computer services.

A TDY specialist may be needed to perform the three activities of questionnaire completion, writing of the survey manual, and writing of the DP paper (estimated time required for these activities is somewhere between one and two months). It may be advisable to split the job between an economist and a nutritionist.

Preparatory work on the part of the Mission and the counterpart institution includes in November and December, the search for and hiring of supervisory staff and enumerators. Supervisors should be trained in January and participate in a field trial during February. They should then serve as instructors for the training of enumerators in March and April.

APPENDIX 1

Data Collection and Questionnaire

A-1 Conceptual Introduction to the Collection of Income and Consumption Data in Rural Bolivia

The study of family expenditure and consumption patterns for the multiple purpose of comsumer price index construction, demand analysis, and nutrition status assessment, requires large amounts of data which are collected by means of a cross-section survey of families. The dependent variables measured by the survey are household cash expenditures on all food and non-food items, including inputs into the farm operation, and physical quantities of food consumed. Separate variables are defined for consumption of food from different origins (purchases, autoconsumption,[1/] barter, gifts). The consumption of non-purchased good is valued at locally and seasonally prevailing market prices in order to permit the analysis of expenditure patterns in terms of the common monetary denominator. For dietary and nutritional analysis the edible portion of foods consumed during the survey period is expressed in terms of calories and nutrients. The conclusions regarding nutritional status reached on the basis of family-level data are refined by means of individual-level nutritional indicators such as anthropometric measurements (notably weight and height), approximate individual food intake of children under

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1/ Subsistence production or subsistence consumption.

five years of age, as well as pregnant and lactating mothers, mortality and morbidity data and, finally, information on weaning habits.

The patterns of consumption of rural families are determined by a series of characteristics which must be observed simultaneously with expenditures and diet. These "independent" variables include the employment status of family members willing to earn income, as well as the total yearly income derived from all gainful activities of working members. They further include the absolute and relative prices of consumer goods in effect at any point in time and space, the family age/sex composition, the educational achievement of certain family members, the ethnic and/or religious affiliation of the family, and its geographic location.

The conceptual basis for the RHS questionnaire is given in Figure 1, which is a flow chart-type model of the peasant family expenditure system. The diagram shows the determination of the principal independent variable, income, by the family resource endowment; it shows the composition of income and the expenditure or consumption uses to which this income is put. Diet composition and family nutrition status are residuals that depend on the expenditure patterns and the size of the subsistence component of the family budget.

It is generally agreed that family income cannot be estimated easily. Respondents may be reluctant to disclose their income for fear of taxation or they may simply be

unable to remember their total yearly income. The process of income generation through time is extremely complex among poor people, because the low productivity of their labor in any one job requires them to simultaneously pursue a number of gainful activities. In the partial subsistence economy there exists furthermore the problem of interpretation of the value imputed to autoconsumption. Many household budget studies therefore approximate income by the sum of all expenditures. Where income data are believed to be unreliable, the use of total expenditures as a proxy is certainly justified. On conceptual grounds it has also been argued that if Friedman's permanent income hypothesis is valid, the use of total expenditures as an explanatory variable is more appropriate than the use of income, since the former is freer of transitory components than the latter.[1/] Nevertheless, total expenditures are not independent of expenditures on any particular commodity, and estimates of demand elasticities are therefore biased.[2/]

Despite the difficulty of obtaining reliable data on income, an effort should be made in the Bolivian RHS to develop income estimates.[3/] Since one cannot expect respon-

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[1/] The total expenditure versus income dilemma is discussed in W.J. Thomas, ed., The Demand For Food (1972) and S.T. Prais and H.S. Houthakker, The Analysis of Family Budgets (1971)

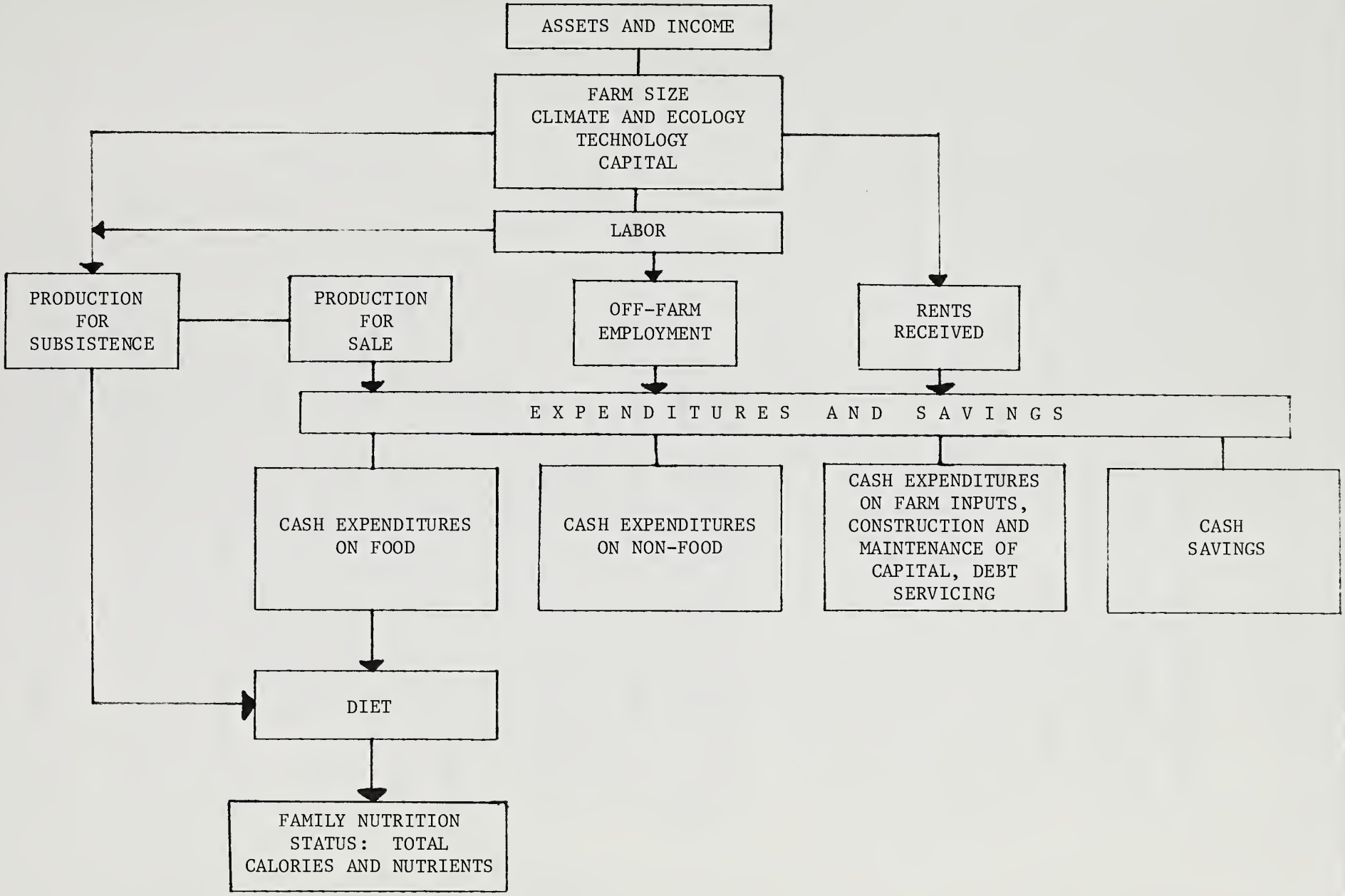
[2/] See R. Summers, Econometrics 27:7 (1959)

[3/] If for some unfortunate reason these should turn out to be unreliable, one could, of course, always have recourse to the second-best solution of using total expenditures as an income proxy.

dents to know their total annual family income off-hand and be ready to report it, the point must be researched by means of a series of independent investigations, the results of which are finally pieced together like a puzzle. The research starts with the disaggregation of the sources of income (assets) and the distinction of various forms of income (see Figure 1).

In the monetized urban economy, the employment status of gainfully occupied family members satisfactorily explains observed family income, because labor is the principal income-generating asset of the industrial working class. (Inputs complementary to labor are provided by the entrepreneur, and income earned from capital and other assets is minimal among the urban laboring population in less developed countries.) In the rural economy, the occupational characteristics (or labor allocation patterns) of family members do not afford an exhaustive explanation of family income levels. To the extent that rural labor is self-employed, non-labor assets available to the farm operation are further important determinants of production and income earning possibilities. Non-labor assets include farm size or land resources, climate and ecology, and the capital and technology embodied in on-farm production of agricultural and non-agricultural output. (Examples of the latter are arts and crafts.) These assets determine the returns to on-farm labor and, partially, the size of the sub-sistence component in peasant family budgets, since physical

FIGURE 1. DETERMINANTS OF PEASANT FAMILY FOOD CONSUMPTION AND NUTRITION STATUS IN THE CONTEXT OF THE FAMILY EXPENDITURE SYSTEM



and capital constraints to on-farm production possibilities promote peasant interaction with the monetary economy, i.e., the sale of peasant labor against cash which is subsequently converted into purchased consumer goods. Non-labor assets affect food production and therefore subsistence consumption possibilities not only quantitatively, but also qualitatively in the sense that climate and ecology dictate the types of crops that can be grown. It is therefore necessary that a rural consumption survey record information on non-labor assets of the peasant family.

The labor endowment of the peasant family is a function of family size and age/sex composition. Whereas urban families tend to depend on one or two income earners, all members of the peasant family except small children are workers and contributors to family income. Subsistence tasks and jobs that produce cash income are distributed among family labor according to capability and customs as determined by age/sex criteria. Since the resources of the peasant economy are generally too limited for accumulation to constitute the moving principle of production, the intensity of labor use is largely determined by perceived consumption needs.[1/] The latter have grown and become increasingly sophisticated as a result of the past - World War II communications revolution in rural areas of less developed countries and, related

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[1/] See A.V. Chayanov, The Theory of Peasant Economy, 1966.

to it, the growing incidence of imigration and urbanization. Perceived consumption needs in rural areas invariably include a purchased component today. This phenomenon, which must partly be traced to demonstration effects, is reinforced in many instances by the unprecedented demographic pressure on scarce non-labor assets and the resulting decline in per capita on-farm production possibilities. The availability of subsidized imported food in the rural areas of many developing nations is a further factor responsible for changing perceptions of needs and consumption habits.

Peasant family activity levels may be anticipated to be high where possibilities to earn cash and to consume purchased food and non-food products exist and similarly where scarce on-farm production possibilities are coupled with an absence of opportunities of wage employment. They are likely to be low where subsistence needs can be produced with relative ease in the absence of opportunities of wage employment. Low levels of peasant activity have frequently and falsely been taken to support the notion of wide-spread rural unemployment. A more appropriate interpretation of peasant idleness (where it exists) is that (a) their basic "sociophysiological" needs, conceived perhaps in terms of annual family caloric requirements, are satisfied and (b) that off-farm income and consumption possibilities are exhausted or non-existing.

The study of family labor allocation patterns in dependable non-labor assets and off-farm job opportunities is complicated, because ideally it requires the year-long keeping of time records of daily activities of working family members. Because of resource limitations such detailed data cannot be observed for a nation-wide rural sample. An attempt will nevertheless be made in the Bolivian rural household survey to obtain reasonably disaggregated information on family labor use.

For this purpose a distinction is suggested between (a) income from off-farm employment of all working family members during the past year, (b) income from on-farm non-agricultural production activities (arts and crafts, processed foods), (c) income from agricultural and livestock production activities (home-consumed and sold), and (d) income from factor rents. Apart from its inherent analytical interest, the objective of the study of family labor use is the estimation of income of types (a) and (b). The actual way of obtaining family labor allocation and task-specific income data follows from the questionnaire.

Income from agricultural and livestock production is determined on the basis of certain RHS asset data and income information from the 1978 National Socioeconomic Farm Survey. The NSFS data permit the estimation of an income per hectare figure for each crop, ecological zone (location) and farm

type. Thus, the collection by the RHS of information on family land holdings, the distribution of crops among cultivated parcels, and ecological (locational) data leads to an estimate of income from crop production without necessitating an investigation into on-farm labor use patterns. The same approach can be used to determine income from livestock production activities.

Income from factor rents, finally, is estimated on the basis of direct questioning of respondents.

The estimation of family expenditures and consumption is easier than that of income in the sense that it is not based on recall, but on direct observation during the survey period. The concept and methodology of collection of expenditure and consumption data is apparent from the questionnaire and does not require comment beyond the discussion given in section 1 above and in the following section.

A-2 A suggested Questionnaire on Family Income, Expenditures, and Consumption

The themes for the seven day RHS questionnaire are the following:

Questionnaire Table	Topic
1.	Control
2.	Family Composition and Individual Characteristics

3.	Individual Meal Attendance Record for Family Members and Guests during survey Period
4A	Daily Purchases of Food and Beverages by Family Members
4B	Daily Expenditures on Food and Beverages Consumed Outside the House
4C	Daily Receipts of Food and Beverages as Gifts, Donations and Payment for Labor Services (all family members)
5.	Daily Purchases of Non-food Commodities and Services (all family members)
6A	Daily Consumption or Intake of Food by the Family: All Meals
6B	Refreshments Taken Between Meals
7.	Individual Intake of Children Under 5 and Pregnant and Lactating Mothers (observed during 3 days)
8.	Weaning Habits
9.	Mother's Food Habits in Pregnancy and Lactation
10.	Family Fertility and Mortality
11.	Bulk Purchases of Food and Beverages During the Month Preceding the Survey
12A	Purchases of Non-food Commodities and Services During the Month Preceding the Survey
12B	Extraordinary Expenditures on Buildings, Land, Construction, Repairs, and Vehicles During the 12 Months Preceding the Survey
12C	Debt Services
13.	Expenditures on Inputs into Family Farm Operation, Past Agricultural Year
14.	Cash Savings

15. Land Use

16. Technology Level

17. Income from Off-farm Employment (all gainfully occupied family members)

18. Income from On-farm Work in Arts, Crafts and Food Processing.

19. Income from Factor Rents

The actual questionnaire tables are presented at the end of this section. They are written in Spanish to avoid having to translate them later on. A number of questionnaire tables are preceded by comments which should clarify the design of the tables and the reason why they are included. I have not developed a questionnaire for the one day surveys, because the data to be collected at those times are minimal compared to the volume of information requested during the seven-day survey. The bulk of the one-day questionnaire will consist of a table of the type of table 2 in the seven-day questionnaire and a table on family meal composition during the day preceding the survey.

1. Control

The control table indicates the family name, observation number, location, enumerator's and supervisor's names and signatures attesting satisfactory completion of the interviews, dates of survey and other information.

2. Family Composition and Individual Characteristics

This table lists all family members, their age, sex, educational and migratory characteristics (Department of birth),

as well as their weight, height and arm circumference. Family members are given consecutive codes from 01 to the total pertinent number. The 01 code is always reserved for the head of the household; 02 marks the wife of the head of household, unless she herself is the head of household. Guests (codes 50 and up) participating in any one meal during the survey period are also listed in this table, but only their age and sex characteristics are recorded. Apart from its use in the evaluation of nutrition status, the body weight statistic is needed to calculate calorie and protein requirements (discussion in connection with table 3). Since it seems too demanding to ask guests to be weighed, they are assigned mean weights corresponding to their age and sex group. These means are calculated from the RHS sample population. They are not adopted from international anthropometric standards.

3. Individual Meal Attendance Record for Family Members and Guests During Survey Period

This information is required to calculate daily per capita intake levels as well as to scale energy and nutrient requirements so that they are compatible with average per capita intakes which reflect meal attendance. To understand the use of this information, imagine a family of 3 members, without guests, whose food patterns include 3 daily meals (breakfast, lunch, dinner) and whose food consumption has been monitored during 3 days. Person 1 is absent from break-

fast on the first day; person 3 is absent from dinner on the third day. Otherwise all family members participate in all meals of the 3 day survey period. Thr meal attendance table then looks like this:

	Day 1			Day 2			Day 3		
Person	B	L	D	B	L	D	B	L	D
1	0	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	0

Where 0 = absent and 1 = present at meal in question. On the basis of knowledge about regional and cultural food patterns (number of daily meals taken, caloric importance of each daily meal) weights between 0.00 and 1.00 are assigned each meal of the day. These weights are imputed to each record of positive meal attendance (code 1 in above table) in such a way that they sum to 1.00 for each person-day on which all meals were attended. If in our hypothetical example we assign the coefficient 0.25 to breakfast, 0.30 to lunch, and 0.45 to dinner, the meal attendance index of the first person on the first day equals 0.75. His/her index for the survey period is 2.75. The survey period index of the second person is 3.00, while that of the third person amounts to 2.55. The family total attendance index for the survey period (FTA) equals 8.30.

The FTA is the divisor used to calculate average daily per capita intake ($\bar{c}$) of any individual food, food group, or the sum of all food items during the survey period, where the intake may be measured in terms of physical or any or all of the nutrients:

(1) $\bar{c} = \frac{C_i}{FTA}$, where C_i = Family consumption during survey period of any food, food group, or total food.

The intake figure $\bar{c}$, expressed in terms of calories and nutrients, is compared with daily per capita nutritional requirements for the purpose of determining the nutritional adequacy of the family diet. Coefficients of percent satisfaction (SAT) of the family diet are calculated for any nutrient __ as:

(2) $SAT_{ij} = \frac{\bar{c}_{ij}}{R_{ij}} * 100$, Where R is the average daily per capita requirement, i denotes calories and 9 different nutrients 1/, and j denotes the family in question.

The daily energy and nutrient requirement of an individual depends on his/her physical characteristics (age, sex, weight), and in the case of energy and some nutrients, activity, climate, and other variables. They are calculated for each individual family member and guest and scaled to intake levels by means of the meal attendance information. To

1/ The nutrients are protein, fat, calcium, iron, vitamins A and C, riboflavin, niacin, and Thyamin.

illustrate the procedure, we use the same hypothetical family considered above and show how its average daily per capita calorie requirement (the R_{ij} of equation 2) is calculated:

Person	Sex	Age (yrs)	Requirement per kg body weight[1/] (Kcal)		Weight (Kg)		Survey period Member Meal Presence Index		Survey period Member requirement
1	M	44	40	*	71	*	2.75	=	7810
2	F	39	36	*	49	*	3.00	=	5292
3	F	9	68	*	26	*	2.55	=	4508
							8.30		17610

FTA = 8.30

Total Family Survey Period Requirement = 17610 Kcal

Average Daily per capita requirement = 17610 Kcal/FTA

= 2122 Kcal

[1/] The energy requirement per kg body weight is taken from FAO/WHO, 1973, Energy and Protein Requirements.

Note that this use of the meal attendance information and the FTA variable implies that a full weight of 1.00 is given to each consumer in the family regardless of his/her age and sex. The calculation of daily per capita intake could at least theoretically be refined by assigning each person an adult equivalent coefficient. It is, however, an extremely complicated enterprise to do so in a satisfactory way. Under

the reasonable assumption that intakes implicitly reflect the relative capacity to consume of various family members, the precision gained may well not be worth the effort.

4, 5. Daily Purchases

The difficulty in obtaining data on daily purchases is not to get some or even most expenditures, but to get all of them as they are incurred by the various family members. Field experience must direct the enumerator's work and determine the most appropriate household members who must be questioned. In rural Bolivia, the female head of household is the principal decision maker on family expenditure patterns. She is therefore the principal respondent in the RHS. But there may be expenditures she does not control nor know about. These must be detected by questioning other family members.

The questionnaire will contain seven copies of tables 4 and 5 - one for each survey day. The information contained in these tables will be "blown up" to the yearly level to present analysis of annual expenditure patterns.

11, 12. Monthly and Yearly Purchases

Many households may make bulk purchases of such commodities as sugar, salt, or bottled oil. A number of non-food expenditures are also of a long-term nature (educational costs, construction expenditures, etc.). It may happen that

none of these occur during the seven day survey period and it is therefore necessary to inquire about them by relying on respondents' willingness and capacity to recall. The information on monthly and yearly purchases is noted in questionnaire tables 11 and 12. As in all questions that involve recall, it is the enumerator's task to probe respondents' memories in a sensitive manner, for example, by disaggregating the various possible expenditure categories, without, however, suggesting her own answers to her questions.

6A. Daily Consumption or Intake of Food by the Family

This table, which is repeated every survey day, contains the quantitative information on family food consumption. Ingredients to the two main meals of the day are verified in the crude state prior to preparation. The table provides space for the weight as purchased, the residual (e.g., potato peels, where they are not consumed), and the edible portion. After the meal pot and plate waste, as well as left-overs, are weighed and the actual consumed quantity of every ingredient is determined by taking the difference.

The ingredients to the remaining meals are determined and quantified by means of a controlled recall approach. Housewives or other appropriate family members are asked about the qualitative composition of those meals. Quantities are then determined by either recall or weighing of food stocks

before and after the meal. The respondent recall capacity may be augmented by such devices as showing him or her a number of pots of known capacity and having him/her indicate the one most closely corresponding to the quantity of a certain food or dish they actually consumed.

15. Land Use

The purpose of this series of tables is to obtain detailed information on land use by type of crop and fallow in order to be able to calculate income from agricultural production. As mentioned above, this income component is estimated on the basis of income per hectare figures that will be developed for the 1970 NSFS. The organization of Table 15 will probably be modified once the results of the NSFS are in and field difficulties with the NSFS questionnaire are known (about November 1978).

16. Technology Level

The purpose of this table is to generate a minimum of qualitative information on the technological level (use or no use of purchased inputs) of the family farm. The stratification of families by technology will be useful to understand the variability in consumption, expenditures, and nutrition status. Since it is advisable that the NSFS based estimation of income derived from cultivated land be made for various technological levels, it is necessary to include a table on technology in the RHS questionnaire.

ENCUESTA DE HOGARES RURALES, BOLIVIA 1979/1980

Cuadro 2: Composición Familiar

	cód.	Nombre de la persona	Relación con JH 1/	Fecha de Nacimiento Día	Mes	Año	Edad	cód 2/	Sexo 3/	Edo. Civil 4/	Nivel Educación 5/	Sigue Estudiando Sí=1 No=2	Provincia de Nacimiento 6/	cód.	Año de Migración 7/	Peso (kg)	Talla (cm)	Circum. Brazo (cm)
FAMILIARES	01																	
	02																	
	03																	
	04																	
	05																	
	06																	
	07																	
	08																	
	09																	
	10																	
	11 ↓																	
INVITADOS 8/	50																	
	51																	
	52 ↓																	

Ver página siguiente para comentarios

ENCUESTA DE HOGARES RURALES, BOLIVIA 1979/1980

Cuadro 1: Control

Número del hogar: ☐☐☐☐

Nombre y Dirección del jefe de hogar:

Nombre: _____

Dirección: _____

_____

Ubicación:

Departamento: _____ ☐☐

Provincia: _____ ☐☐

Cantón: _____ ☐☐

Segmento: _____ ☐☐

Número del
listado muestral: _____ ☐☐☐☐

Distancia del Centro Poblado al que
va más frecuentemente (km) ☐☐☐

¿Qué Centro Poblado es? _____

Fecha de la encuesta: Primer día ☐☐ ☐☐ ☐☐
Día Mes Año

Ultimo día ☐☐ ☐☐ ☐☐
Día Mes Año

Altitud s.ù.m. de la vivienda (metros) ☐☐☐☐

_____

Además: Registro de visitas al hogar
Supervisión y control
Espacio para firmas - empadronador
supervisores
codificador

Notas, cuadro 2 -

La primera persona cuyo nombre se anota en el cuadro 2 es el jefe de hogar (JH). Esta persona es la que recibe el código 01. Normalmente el JH es el padre de familia, pero cuando está ausente se considerará como JH a la madre o a otra persona pertinente. No se entrevistarán familias que no tengan JH definido.

El empadronador apuntará la información en forma codificada donde sea posible.

1/ Relación con el JH:

1 = el mismo JH

2 = esposa ó conviviente

3 = hijo/hija del JH ó de la esposa ó conviviente

4 = padre/madre del JH ó de la esposa ó conviviente

5 = hermano/hermana del JH

6 = otro lazgo de parentesco con el JH

7 = sin lazgo de parentesco con el JH

2/ Edad: anotar en dias hasta 30 días cumplidos;
anotar en meses hasta 60 meses cumplidos; y
anotar en años enteros de 60 meses (5 años) en adelante.

Códigos-

1 = año

2 = mes

3 = día

3/ Sexo:

1 = masculino

2 = femenino

3 = mujer embarazada

4 = mujer lactante

4/ Estado Civil:

1 = casado

2 = soltero

3 = conviviente

4 = divorciado

5 = viudo

5/ Nivel de Educación:

1 = ninguna

2 = primaria

3 = secundaria

4 = superior

5 = universitario

6/ Provincia de Nacimiento: se apunta el nombre de la provincia, colocándose el código pertinente en la oficina. Sólo se recoge esta información para el JH y la esposa ó conviviente.

7/ Año de Migración: en caso de que la provincia de nacimiento no coincida con la provincia anotada en el cuadro 1 de Control se asume que la familia ó el JH hayan migrado y se apunta el año de migración. Sólo se recoge esta información para el JH y la esposa ó conviviente.

8/ Invitados: en el espacio proporcionado para invitados se anota las características requeridas de los invitados (aunque estén presentes en nada más que una comida). Se hace las anotaciones en el orden en que aparezcan los invitados.

Cuadro 3: Presencia de los Comensales en las Comidas Familiares

	cód. 1/	Nombre de la persona 1/	Día 1				Día 2				Día 3				Día 4				Día 5				Día 6				Día 7			
			D	A	T	C	D	A	T	C	D	A	T	C	D	A	T	C	D	A	T	C	D	A	T	C	D	A	T	C
FAMILIARES	01																													
	02																													
	03																													
	04																													
	05																													
	06																													
	07																													
	08																													
	09																													
	10																													
	11																													
INVITADOS	50																													
	51																													
	52																													

EXPLICACION:

D = Desayuno
A = Almuerzo
T = Té
C = Comida

Nótese que estas siglas han sido utilizadas para orientarnos no más. En el campo, las varias comidas del día no se denominan forzosamente así.

LLENANDO EL CUADRO:

A cada persona se le asigna la cifra 1 en el cuadrito que corresponde al día y a la comida en cuestión, siempre y cuando la persona haya estado presente en dicha comida. En caso contrario se coloca la cifra 0.

1/ Los códigos y nombres de las personas en este cuadro se listan en el mismo orden en que figuran en el cuadro 2. El número total de personas en los cuadros 2 y 3 debe ser idéntico.

Cuadro 4a: Compras Familiares de Alimentos y Bebidas en el Día de la Encuesta

Nombre del Artículo	Código (Oficina)	Cantidad	Unidad medida	kg. (Oficina)	gasto total	precio por kg.	tipo de establecimiento pormenorista	pagó: efectivo = 1 crédito = 2
							*	

* Desarrollar categorías y códigos

Cuadro 4b: Gastos en Alimentos y bebidas consumidos fuera de la casa en el Día_____ de la encuesta (todos los miembros familiares)

Nombre del artículo ó plato	código (Oficina)	gasto total	pagó: efectivo = 1 crédito = 2	tipo de establecimiento
	*			**

* Merece discusión si se quiere codificar todos los platos comidos en restaurantes ó si se prefiere crear una sola categoría "gastos en alimentos consumidos fuera de casa." En la medida en que el interés de esta información está en el análisis de la estructura de gastos maś bien que en el de consumo y nutrición parece apropriado crear la sola categoría mencionada.

** Desarrollar categorías y códigos

Cuadro 4c: Recibos Familiares de Alimentos y Bebidas como Donación ó Pago Por Concepto de Trabajo, Día_____ de la encuesta

Artículo 1/	Código (Oficina)	Cantidad	Unidad Medida	kg. tal comprado (Oficina) 2/	kg. parte comestible (Oficina) 2/	Valor Imputado (Oficina)	Tipo de recibo: donación=1 pago trabajo = 2	uso: consumo = 1 reventa = 2

1/ Determinar si se desagrega alimentos mixtos y platos ó si se desarrolla un sistema de códigos para platos al igual que datos sobre el contenido nutricional de platos de composición "típica."

2/ Si es aplicable. Siempre habrá que indicar por lo menos uno de los dos tipos de peso físico.

Cuadro 5: Compras de Bienes No-Alimenticios y Servicios en el Día_____de la Encuesta, (todos los miembros familiares)

Nombre del Artículo	Código (Oficina)	Cantidad	Unidad Medida	kg. (Oficina)	gasto total	precio por kg. si es (aplicable)	tipo de establecimiento por menorista	Pagó: efectivo = 1 crédito = 2

Nota: Hay un cuadro 4 y un cuadro 5 para cada día de encuesta.

Cuadro 6a: Consumo Familiar de Alimentos y Bebidas en el Día____de la Encuesta

Pesada de todos los ingredientes a las 2 comidas principales del día y estimación por método recordatorio de los ingredientes de las demás comidas (probablemente desayuno y merienda ó té).
-Dos visitas diarias al hogar-

Tipo de Comida / hora	Nombre del plato	Ingre-dientes	Código (Oficina)	Origen 1/	(gr.) peso tal comprado 2/	(gr.) resíduo 3/	(gr.) parte comestible 4/	(gr.) sobrantes y desperdicios 5/	destino de sobrantes y desperdicios 6/	cantidad neta consumida (gr.) 7/
DESAYUNO										
ALMUERZO										
TE										
COMIDA										

Nota: Hay que dejar por lo menos diez líneas para tantos ingredientes por tipo de comida. Hay un cuadro 6 para cada día de encuesta. Ver notas eclaratorias en la página siguiente.

Notas, cuadro 6a -

1/ Origen del ingrediente:

1 = comprado

2 = autoconsumo

3 = trueque

4 = donación (recibido gratis)

5 = otros

2/ Peso tal comprado: es el peso bruto del alimento incluyendo los resíduos. La encuestadora pesará el alimento tal comprado en la mayoría de los casos. Luego pesará el resíduo. Nótese que es el peso tal comprado de los alimentos provenientes de autoconsumo que se agregará a la información de gastos para que sea valuado en términos monetarios y analizado como parte de la estructura de gastos.

3/ Resíduo: es la parte de un alimento que no se consume. Así, por ejemplo, muchas familias echan la cáscara de la papa. En este caso, la cáscara es el resíduo de la papa.

4/ Parte comestible: del alimento es el peso tal comprado menos el peso del resíduo.

5/ Sobrantes y desperdicios: son los restos que quedan en la olla y en los platos al terminarse la comida.

6/ Destino de sobrantes y desperdicios: el destino de dichos restos puede ser:

1 = se echa

2 = se guarda para otra comida

3 = se da a los animales

7/ Cantidad neta consumida: es la parte comestible del alimento menos los sobrantes y desperdicios.

Nota final: Dado que bajo esta metodología se pide a la encuestadora que pese sólo los ingredientes de las dos comidas principales de cada día de encuesta, le quedan por estimar las cantidades de los ingredientes a las demás comidas. Al aplicarse el método recordatorio no será siempre posible obtener datos para todos los tipos de peso listados en el cuadro 6. La encuestadora deberá tratar de producir una estimación de la cantidad neta consumida en todos los casos. Algunas formas de estimar dicha cantidad han sido esbozadas en el papel de R. Grueso sobre "Componente Nutricional del Estudio de Hogares en el Area Rural Boliviana."

Cuadro 6b: Refrigerios tomados en la Residencia del Hogar

Hora	Persona que consumió	Código de la persona	Ingredientes al refrigerio	peso tal comprado gr.	Resíduo gr.	parte comestible gr.
		*				

* Las personas y sus códigos utilizados aquí deben coincidir con los de los cuadros 2 y 3

Cuadro 7: Consumo individual de Menores de 5 Años y Madres Embarazadas y Lactantes

Tipo de Comida	hora	Nombre del plato	Ingredientes	Código (Oficina)	Estimado de cantidad neta consumida gr.
DESAYUNO					
ALMUERZO					
TE					
COMIDA					
Niño lactante: Cantidad de leche consumida (Oficina)					

Nota: Esta información se recoge exclusivamente por el método recordatorio de las últimas 24 horas y para un total de 3 días. Habrá por lo tanto 3 copias del cuadro 7 para cada miembro del hogar que satisface las condiciones de edad y estado fisiológico para entrar al estudio de consumo individual. Es posible que sea necesario proporcionarle a la encuestadora un formulario intermedio en el cual apuntaría los elementos del estimado de cantidad neta antes de pasar el estimado total al cuadro 7.

Cuadro 8: Hábitos de Destete y Alimentación Infantil

Nota: Las preguntas del cuadro 8 se refieren al último hijo de la esposa ó conviviente del JH que haya recibido alimentación materna, y cuya alimentación en el período de la encuesta sea totalmente otra que materna. Se excluye del estudio hijos de dicha persona amamantados durante el período de la encuesta. Se excluye igualmente hijos de otras madres presentes en el hogar. Las preguntas se dirigen a la esposa o conviviente del JH.

1. ¿Alimentó Ud. a su último hijo con leche materna? ☐

sí = 1

no = 2

nota - en caso negativo no se llena las preguntas 2,3,5,6,8, ó 9 del cuadro 8.

2. ¿A cuántos meses de edad le suprimió la alimentación materna completamente? ☐☐

3. ¿ Por qué le suprimió la leche materna?

(marque una sola de las siguientes categorías) ☐

- se acabó la leche = 1
- por enfermedad de los pechos = 2
- Por otra enfermedad de la madre = 3
- Porque el miño no quiso más = 4
- Porque el niño estabe muy grande = 5
- Por enfermedad del niño = 6
- Por otra razón:_____ = 7

4. ¿Hasta qué edad en meses cree Ud. que se les debe dar alimentación de pecho a los niños? ☐☐

5. ¿A qué edad en meses le dio por primera vez alimentos diferentes de la leche materna? ☐☐

6. ¿A qué edad en meses le dio por primera vez alguna leche diferente de la leche materna? ☐☐

7. ¿Qué leche(s) diferente(s) de la leche materna solía (suele) dar a su hijo entre la fecha de su nacimiento y los 2 años de edad?(marque todas las categorías aplicables).

leche fresca de vaca ☐

leche fresca de otro animal:_____ ☐

leche en polvo ☐

leche evaporada de tarro ☐

fórmulas preparadas: ☐

*poner las preparaciones disponibles en Bolivia

8. ¿Le suprimió la alimentación materna cuando el niño tuvo diarrea? (marque una de las categorías). ☐

sí = 1

no = 2

unas veces sí, otras no = 3

no tuvo diarrea = 4

9. ¿Le suprimió la alimentación materna cuando el niño tuvo fiebre? (marque una de las categorías) ☐

sí = 1

no = 2

algunas veces sí, otras no = 3

no tuvo fiebre = 4

Si de la pregunta 8 se aprende que el niño tuvo diarrea, pregunte:

10. ¿Le suprimió uno ó varios alimentos cuando el niño tuvo diarrea? ☐

sí = 1

no = 2

11. En caso afirmativo, ¿ le suprimió:

- leche (cualquier tipo)? ☐

sí = 1

no = 2

- carne ? ☐

sí = 1

no = 2

- huevo ? ☐

sí = 1

no = 2

- jugos ? ☐

sí = 1

no = 2

- sopas ? ☐

sí = 1

no = 2

- otros ? ☐

sí = 1

no = 2

Si de la pregunta 9 se aprende que el niño tuvo fiebre, pregunte:

12. ¿Le suprimió uno ó varios alimentos cuando el niño tuvo fiebre? ☐

sí = 1

no = 2

13. En caso afirmativo, ¿le suprimió:

- leche (cualquier tipo)? ☐

sí = 1

no = 2

- huevo? ☐

sí = 1

no = 2

- jugos? ☐

sí = 1

no = 2

- sopas? ☐

sí = 1

no = 2

- otros? ☐

sí = 1

no = 2

14. ¿Quién le aconseja la alimentación de los niños? (marque una de las siguientes categorías) ☐

nadie = 1

la abuela = 2

otro familiar = 3

la auxiliar de enfermería = 4

otra persona = 5

15. Observaciones: _____

_____

_____

_____

_____

Cuadro 9: Hábitos Alimenticios de la Madre Durante la Gestación y Lactancia

Nota: Estas preguntas se dirigen únicamente a la esposa ó conviviente del JH. Se excluye de este estudio las demás madres que estén presentes en el hogar.

1. ¿Suprime uno ó varios alimentos durante el embarazo? ☐

sí = 1

no = 2

2. En caso afirmativo, ¿suprime Ud.:

- leche? ☐

sí = 1

no = 2

- carne? ☐

sí = 1

no = 2

- pescado? ☐

sí = 1

no = 2

- huevo? ☐

sí = 1

no = 2

- frutas? ☐

sí = 1

no = 2

- hortalizas? ☐

sí = 1

no = 2

- harinas? ☐

sí = 1

no = 2

- otros

sí = 1

no = 2

3. ¿Aumenta el consumo de uno ó varios alimentos durante el embarazo?

sí = 1

no = 2

4. En caso afirmativo, ¿ aumenta Ud.?

- leche?

sí = 1

no = 2

- carne?

sí = 1

no = 2

- pescado?

sí = 1

no = 2

- fruta?

sí = 1

no = 2

- huevo?

sí = 1

no = 2

- hortalizas?

sí = 1

no = 2

- harina ?

sí = 1

no = 2

- otros ?

sí = 1

no = 2

5. ¿Suprime uno ó varios alimentos mientras le da alimentación al niño? ☐

sí = 1

no = 2

6. En caso afirmativo, ¿suprime Ud.:

- leche? ☐

sí = 1

no = 2

- carne? ☐

sí = 1

no = 2

- pescado? ☐

sí = 1

no = 2

- fruta? ☐

sí = 1

no = 2

- huevos? ☐

sí = 1

no = 2

- hortalizas? ☐

sí = 1

no = 2

- harinas? ☐

sí = 1

no = 2

- otros? ☐

sí = 1

no = 2

7. ¿Aumenta el consumo de uno ó varios alimentos mientras le da alimentación materna al niño? ☐

sí = 1

no = 2

8. En caso afirmativo, ¿aumenta Ud.:

- leche? ☐

sí = 1

no = 2

- carne? ☐

sí = 1

no = 2

- pescado? ☐

sí = 1

no = 2

- frutas? ☐

sí = 1

no = 2

- huevos? ☐

sí = 1

no = 2

- hortalizas? ☐

sí = 1

no = 2

- harinas? ☐

sí = 1

no = 2

- otros? ☐

sí = 1

no = 2

9. Observaciones: _____

_____

_____

_____

_____

_____

_____

Cuadro 10: Fertilidad y Mortalidad del Hogar

Nota: estas preguntas se refieren únicamente a la esposa ó conviviente del JH. ("la madre").

1. Edad de la madre (copiar del cuadro 2) ☐☐

2. ¿Cuántos hijos le han nacidos vivos? (En total, o sea, sin que importe quien fue el padre). ☐☐

Liste los hijos nacidos vivos en orden cronológico:

Hijos	Fecha de Nacimiento Día	Mes	Año	¿Vive? sí = 1 no = 2	Si no vive: ¿a qué edad murió?
					*

* el código de la unidad de medida de la edad es el mismo que él utilizado en en cuadro 2, a saber: 1 = año

2 = mes

3 = día

Cuadro 11: Gastos "bulk" en Alimento y Bebidas Durante el Mes que Precedió la Encuesta

Artículo	Código (Oficina)	Cantidad	Unidad medida	kg. (Oficina)	gasto $b	Precio por kg $b	pagó: efectivo = 1 crédito = 1	En qué localidad compro (anotar nombre)	Distancia de dicha localidad de la vivienda km.	Código de la categoría de distancia	Tipo de establecimiento pormenorista
										*	*

* a desarrollarse las categorías

Cuadro 12a: Gastos en Bienes No-Alimenticios y Servicios durante el Mes que Precedió la Encuesta

Artículo	Código	Valor Pagado $b	Pago: Efectivo = 1 Crédito = 2 A plazos = 3*
Vivienda: (compra, arriendo, servicio y mantenimiento, construcción)			
Tabaco			
Salud			
Higiene personal			
Combustible (excepto para transporte)			
Transporte (combustible, compra y mantenimiento vehículo, viajes)			
Muebles y afines			
Educación			
Ropa y zapatos			
(continuado)			

* si es a plazos, apunte el total pagado en la fecha de vencimiento

Cuadro 12a: Gastos en Bienes No-Alimenticios y Servicios durante el Mes que Precedió la Encuesta (continuado)

Artículo	Código	Valor Pagado $b	Pagó: Efectivo = 1 Crédito = 2 A plazos = 3*
Libros, periódicos, otros procustos de papel			
Recreación			
Seguros e Impuestos			
Gastos y contribuciones religiosas			
Otros			

* si es a plazos, apunte el total pagado en la fecha de vencimiento

Cuadro 12b: Gastos Extraordinarios en Casas y Terrenos, Construcciones, Reparaciones y Vehículos, Ultimos 12 meses

Tipo de Gasto (descripción detallada)	Código (Oficina)	Gasto total $b	Pagó: efectivo = 1 crédito = 2 a plazos = 3

Cuadro 12c: Pago de Préstamos (inclusive amortizaciones e intereses), Servicios Bancarios y de Particulares

Tipo de Gasto (descripción detallada)	Código (Oficina)	Gasto total $b	Observaciones

Cuadro 13: Gastos en Insumos a la Producción Agropecuaria Durante la Campaña Agrícola Pasada

Tipo de Gasto	Descripción Detallada 1/	Código (Oficina)	Cantidad	UM 2/	Pagó: Efectivo = 1 con trabajo = 2 con trueque = 3	Si pagó efectivo: valor total pagado
Semilla						
fertilizante						
Pesticida						
Maquinaria						
bomba mochila						
herramienta						
mano de obra						
compra de animales de trabajo						
alimentos para animales de trabajo						
transporte y flete						
otros						

Ver notas en la página siguiente

1/ Indicar, por ejemplo, si el valor total pagado se refiere al producto comprado en el punto de compra ó si incluye el costo de transporte (flete) a la casa ó a la misma chacra del agricultor. Indicar también sí ó no el valor pagado incluye los envases.

2/ UM = unidad de medida

Cuadro 14: Ahorros en Efectivo

¿Ahorra ó guarda Ud. plata en el banco? ☐
sí = 1
no = 2

Caso afirmativo, indique la cantidad ($b): ☐☐☐☐☐☐

¿Qué tipo de interés recibe? (%) ☐☐

¿Ahorra ó guarda Ud. plata en otro sitio, inclusive su casa? ☐
sí = 1
no = 2

Caso afirmativo, indique la cantidad ($b): ☐☐☐☐☐☐

¿Cuánto tiempo estima Ud. que le va a durar esta plata?

años: ☐☐
meses: ☐☐

Cuadro 15: Distribución de la Superficie de la Explotación por Tipo de Cultivo y Descanso

15a: Superficie total de la explotación agrícola (inclusive areas en descanso; sume las areas del dibujo):

Número ó Nombre de la parcela	Cantidad	Unidad Medida	Hectareaje
	HECTAREAJE TOTAL:		

Nota: Con la ayuda del productor la empadronadora hace un dibujo de todos los terrenos que el productor maneja ó manejó durante el año agrícola. Este dibujo que mostrará los límites de cada parcela ó lote en explotactión servirá de ayuda en pasar revista los terrenos cutivados y en descanso

15a: Utilización 1: Cultivos Sembrados Independientes:

Nombre del Cultivo		Superficie				Hectáreas
		Semilla:		Medida extensión		
	código	Cantidad	UM	Cantidad	UM	

Notas: 1) UM = unidad de medida

2) La superficie se determina en términos de la medida de extensión que el productor indique, ó bien, a través de la cantidad de semilla que utilizó

15c: Utilización 2: Cultivos Asociados:

Nombre del Cultivo código		Superficie				Hectáreas
		Semilla:		Medida extensión		
		Cantidad	UM	Cantidad	UM	

15d: Utilización 3: Cultivos Dispersos:

Nombre del Cultivo		Superficie				Hectáreas
		Semilla:		Medida extensión		
	código	Cantidad	UM	Cantidad	UM	

Cuadro 16: Insumos a la Producción de los 3 Cultivos Principales de la Explotación (nivel de Tecnología)

En la producción de los cultivos mencionados utiliza Ud.:

Cultivos	Código	Abono de corral propia producción	Abono de corral comprado (sí = 1, no = 2)	Abono químico	¿Cantidad de abono que usa este año, la estima Ud. suficiente para obtener un buen rendimiento?	¿Utiliza remedios fitosanitarios? (sí = 1, no = 2)	¿Cantidad de remedios que utiliza este año, la estima Ud. suficiente para obtener un buen rendimiento?

17. Ingreso por Concepto de Trabajo Fuera de la Explotación Familiar

Se hace estas preguntas a cada miembro familiar que tenga la edad de poder trabajar. Habrá una serie de copias del cuadro 17, a saber, una para cada trabajador. Las preguntas del cuadro 17 se refieren a los últimos 12 meses.

¿Ha Ud. trabajado fuera de la explotación familiar durante los últimos doce meses? ☐

sí = 1

no = 2

En caso afirmativo, indique los trabajos que hizo:

17.1 Trabajo Asalariado

Tipo de trabajo (descripción detallada	Código (Oficina)	Nombre de la empresa ó del empleador	Sueldos brutos recibidos 1/	Sueldo bruto mensual (Oficina)	Total Impuestos	Sueldo Neto Mensual	¿Cuánto tiempo trabajó? número	UM 2/

1/ indicar período de referencia

2/ UM = unidad de medida. Se apunta en forma codificada:

1 = semana
2 = mes
3 = día

¿Dónde se ubican los trabajos apuntados en el cuadro 17.1?

Trabajo 1 localidad_____

distancia de
la casa
familiar_____

Trabajo 2 localidad_____

distancia de
la casa
familiar_____

Trabajo 3 localidad_____

distancia de
la casa
familiar_____

Trabajo 4 localidad_____

distancia de
la casa
familiar_____

17.2 Reciprocidad de Trabajo

Tipo de trabajo	Código (Oficina)	Nombre del productor con el cual intercambia trabajo	Jornal recibido $b	Comida		Valor (Oficina)	Coca	Valor (Oficina)	Cigarro	Valor (Oficina)	trago	Valor (Oficina)
				Para el dia de Trabajo	Para llevarse							

continuado)

17.2 Reciprocidad de Trabajo
(continuado)

Otro (indique)	Código	Valor (oficina)	¿Cuánto tiempo trabajó?	
			número	UM

¿Dónde se ubican los trabajos apuntados en el cuadro 17.2?

Trabajo 1 localidad_____

distancia de
la casa
familiar_____

Trabajo 2 localidad_____

distancia de
la casa
familiar_____

Trabajo 3 localidad_____

distancia de
la casa
familiar_____

Trabajo 4 localidad_____

distancia de
la casa
familiar_____

17.3 Otras Actividades por Cuenta del Propio Trabajador

(ejemplo: construcción y mantenimiemto de vivienda; transporte; reparación de herramienta, etc.)

Tipo de Actividad	Código (Oficina)	¿Para quién?	Tiempo que ha gastado		REMUNERACIÓN: efectivo	especie:		
			Número	UM	$b	tipo	código	cantidad

17.4 Ingreso Ocasional

(ejemplo: gratificaciones, pensiones, lotería, pago por tiempo sobre tiempo, beneficios de seguros, etc.)

Tipo de Ingreso	Código	Valor recibido $b	Período de Referencia	Valor anual recibido $b (Oficina)

Cuadro 18: Ingreso por Concepto de Venta de Productos Elaborados en la Explotación Familiar (Alimentos procesados, artesanía)

Producto	Código (Oficina)	Cantidad vendida ó trocada: Número	UM	kg. ó número unidades (Oficina)	Valor de dicha cantidad	Gasto en transporte, trabajador y producto	¿Con qué frecuencia vende ó troca dicho producto? 1/	¿Qué tiempo gasta cada vez que se dedica a una actividad de mercado?

Nota: la información de este cuadro se refiere a los últimos 12 meses.

1/ 1 = una vez a la semana
2 = una vez al mes
3 = dos veces al mes
4 = una vez cada 3 meses
5 = una vez cada 6 meses
6 = una vez cada año

El cuadro 18 se refiere, como el cuadro 17, a cada miembro trabajador. El período de referencia son los últimos 12 meses.

Cuadro 19: Rentas Familiares

Apunte todos los ingresos familiares (últimos 12 meses)

-por concepto de arriendo de tierra	$b ☐☐☐☐☐☐
-buyes	$b ☐☐☐☐☐☐
-herramienta	$b ☐☐☐☐☐☐
-capital (crédito)	$b ☐☐☐☐☐☐
- otros (indique:)	$b ☐☐☐☐☐☐

_____

_____

Appendix 2

List of Persons Contacted in La Paz

Mr. Harry Wing, USAID
Mr. Howard Steele, USAID
Mr. Bastiaan Schouten, USAID
Mr. Stephen Wingert, USAID
Mr. Gary Alex, USAID
Mr. James Riordan, USAID
Mr. LLoyd Jacobs, USAID
Ms. Nancy Ruther, USAID
Mr. Boyd Wennegren, CID
Mr. Cecilio Abela, Div. of Nutr., MOH
Mr. Reynaldo Grueso, CONEPLAN
Mr. R. Saenz Guerrero, CONEPLAN
Ms. María Inés de Castaños, CONEPLAN
Mr. Fanor Camacho, CONEPLAN
Mr. Ivan Finot, CONEPLAN
Mr. Julio Mantilla, CONEPLAN
Mr. A. Feliciano Monzon, CONEPLAN
Mr. Mario Tapia, IICA
Mr. Philip Blair, IVS
Mr. David Torrico, SNDC
Mr. Danilo Paz, SNDC
Ms. Bambi Arellano, SNDC
Mr. Humberto Gandarillas, MACA Planning
Mr. Héctor Nogales, MACA Statistics
Ms. Emira Imaña, MACA Statistics
Mr. Winston Estremadoiro, PRODES
Mr. Lawrence Greenberg, CENACO
Mr. Erick Schulze M., INE
Mr. Rubén Belmonte C., INE
Mr. Filiberto Mita Q., INE
Mr. D. Liquitaya Briceño, INE
Mr. William Carter, NIDA
Mr. Mauricio Mamani, NIDA